15

763
Part 4

INDEX

MUNICIPAL ENGINEERING.

10

VOL. XXVII—JULY—DECEMBER, 1904.

American Society of Municipal Improvements—I 304, 375
American Society of Municipal Improvements, The Aims and Accomplished Work of the, Vice-President Charles Carroll Brown, Indianapolis, Ind. 364
Arches, How to Construct Concrete Curb, Culverts and—Q..... 275
Asphalt and Cement, A Municipal Laboratory for Testing, W. H. Broadhurst, Brooklyn, N. Y. 342
Asphalt Blocks, Makers of—Q..... 111
Asphalt Company, The Organization of the General—I..... 55
Asphalt, Kentucky Rock—M..... 460
Asphalt in New Orleans, Obispo—M... 309
Asphalt Pavement, Mixture for—Q.... 184
Asphalt Pavements, Effects of Oil on —Q 437
Asphalt Paving Plant, The Detroit Municipal—I 49
Asphalt Penetration Apparatus—Q..... 183
Asphalt Plant, Detroit's Municipal.... 457
Asphalt Plant at Winnipeg, Man., The Municipal, H. N. Ruttan, City Engineer 354
Asphalt Plant, Progress of the Detroit—I 129
Asphalt Plants at Winnipeg and Detroit, The Municipal—I..... 203
Asphalt Reservoir Lining Case, Injunction on Cincinnati Water Board in—I 286
Asphalt Rock Crushers—Q 110
Asphalt, Specific Heat of—Q 22, 110
Asphaltum from Indiana Oil, M 68
Asphaltum in Paving Mixtures—Effect of Heat Upon—F. O. Blake, Cincinnati, O 5
Assessments for Public Improvements in Toronto, Ont., Methods of Making—C. H. Rust, City Engineer. 355
Assessments—Illegal Contracts—L..... 31
Assessments—Superior, Wis., Not Liable for Bonds Payable by Special —I 387
Assessment Attacked on Trivial Grounds Is Upheld—I 128
Assessment Limited by Benefits—L.... 31
Association of Cement Users—I..... 382
Association of Cement Users—E 426
Aurora, Ind., Water Company Not Municipal Ownership Dummy..... 454
Austin, Ill., Chicago Enjoined from Laying Water Pipes in 455
Automobile, A Six Cyclinder—M..... 225

Bidder, Who Is the Lowest Responsible—Q 182
Bitulithic Contract Denied, Injunction Against Nebraska—I 386
Bitulithic Is Proprietary Term—M..... 230
Bitulithic Pavement, The, Fred J. Warren, Boston, Mass—..... 347
Bitulithic Pavement in Cincinnati, Warren's—I 129
Bitulithic Pavement in North Carolina—M 140
Bitumen Damp Course, Callender's—M 390
Blocks, The Cottom Machine for Making Artificial Stone—M..... 149
Brick and Stone, Crushing Strength of Hollow Concrete Blocks, Common Brick, Vitrified—Q..... 371
Brick Manufacturers' Association, The National—I..... 382
Brick, Manufacturers of—Q..... 280
Brick Pavements, Cost of—Q..... 281
Brick, Standard Rattler for Testing—Q 437
Brick Street Paving, Books on—Q.... 111
Bridge, Best Style of Wooden Floor for—Q..... 284
Bridge Contract at Everett, Wash., to Be Relet—I..... 205
Bridge Contracts, Letting—Q..... 440
Bridge, Stability of Concrete—Q..... 372
Bridge Over the Mississippi River, The Thebes 90
Bridges, Descriptions of Chicago—Q.. 112
Bridges for Indianapolis, New—I..... 207
Building Construction, Correspondence Schools for—Q..... 195

Catch Basin Machines, Cement—M.... 149
Cement Age, The—Q..... 370
Cement, A Municipal Laboratory for Testing Asphalt and—W. H. Broadhurst, Brooklyn, N. Y..... 342
Cement and Concrete, White Portland—Q..... 186
Cement Brick, Sand—M..... 461
Cement and Lime Mixtures, Steam for Hardening—Q..... 436
Cement Block Construction, The Best—Q..... 26
Cement Block Machine, The Latest—M 64
Cement Block Trade, An Association for the—I.....178, 262, 303
Cement Blocks, Coloring for—Q..... 31
Cement Blocks, Lifting Machine for—Q..... 371

Cement Blocks, The Demand for High Class Construction With—E..... 106
Cement Brick by the Bowen Process—M..... .....146, 309
Cement Business in Colorado—Q..... 430
Cement Castings, Making—Q..... 115
Cement Catch Basin Machines—M.... 149
Cement, Chemical Analysis of Atlas Portland—I..... 57
Cement Chemists—Q..... 187
Cement Crushing and Grinding Machinery, Portland—Boilleau and Lyon, Easton, Pa..... 250
Cement, Empire or Imperial Imported —Q..... 115
Cement Exports and Imports—I..... 297
Cement Industries asked of New York State Canal Board, Encouragement of Home—I 213
Cement in 1903, Consumption of Portland—Q 187
Cement Is Used For, What—Q 274
Cement Manufacture, Books on—Q.... 431
Cement Mortar, Alkali in Sand for—Q..431
Cement Mortar, Pump for—Q 189
Cement, New Orleans Drainage Board Recovers for Substitution of Cheaper—L 33
Cement Plant, Cost of—Q 115
Cement Plant, The Machinery of a Modern—Q 30
Cement, Prices for—Q 434
Cement, Proposed Standard Specifications for—I 126
Cement-Rock Deposits of the Lehigh District, The—I 386
Cement Sewer Pipe—Q 113
Cement Sidewalks, Curb and Gutter, Use of—Q 435
Cement, Specific Gravity of Lafarge—I 296
Cement Stains on Stone Be Removed, How Can?—Q 278
Cement Steps, Hair Cracks in—Q 118
Cement Stone, Effect of Plaster of Paris on—Q.... 278
Cement Stone, Mosaic—Q..... 370
Cement, Storage of—Q..... 433
Cement Tank Hold Gasoline, Will a Portland?—Q.... .... 116, 275
Cement Tests—Q..... 116
Cement Walks—Q..... 116
Cement Walks, Metal Letters for—Q.. 117
Cement Walks Over Area Ways—Q.... 188
Cement, White Portland—Q..... 370
Cement Work, Articles on—Q..... 188
Cement Work, Books On—Q..... 27
Cement Work, Removing Stains From —Q..... 379
Cements, Natural Hydraulic—E. C. Eckel, U. S. Geological Survey, Washington, D. C..... 422
Charters, Modern City—Q..... 266
Chicago Conditions, C. B. Maugham... 457
Chicago Improvement and Business Conditions—I..... 214
Chicago Public Works, Charles B. Maugham, Chicago—I.....42, 132, 293
Cinders for Building Blocks—Q..... 117
City Engineer's Powers—L..... 31
Civic Day at the St. Louis Exposition—I 381
Civic Organizations, The Alliance of —I 221
Civil Service Examinations, New York State—I 307
Civil Service Examinations.... 223, 388, 457
Clay Industry, Publications Devoted to the—Q..... 25
Cleaning and Sprinkling, Cost of Street—Q 183
Coal Testing Plant at the St. Louis Exposition, The—E 368
Concrete and Concrete-Steel in the U. S., Edwin Thacher, M. Am. Soc. C. E. 441
Concrete Arches—Q 27
Concrete Arches for Railroads 168
Concrete as a Fire-Proofing Material —I 125
Concrete Beams, Strength of Reinforced 414
Concrete Block Architecture—Q..... 26
Concrete Block Architecture, Hollow —M 145
Concrete Block Architecture, Hollow—M..... 462
Concrete Block Business, The Development of the—Q 432
Concrete Block Construction, Plans for—Q 432
Concrete Block Houses, Who Furnish Plans for—Q 436
Concrete Block Machine, Best 114
Concrete Block Machine, the Goodwin—M 229
Concrete Block Machine, The Miles —Q 374
Concrete Block Machine, The Normandin—M 226
Concrete Block Plant at St. Louis Exposition, Hollow—M 310
Concrete Block Structures, Cities Having—Q 428
Concrete Blocks, A Cemetery Entrance of Hollow—M 147
Concrete Blocks, Common Brick, Vitrified Brick and Stone, Crushing Strength of Hollow—Q 371
Concrete Blocks for Walls of Buildings, Required Size of Hollow—Q.. 114
Concrete Blocks to Fire, Resistance of—Q 436
Concrete, Books on Portland Cement —Q 114
Concrete Bridge, Stability of—Q..... 372
Concrete Building Block Architecture —M 226
Concrete Building Blocks, The Best Machine for Making—Q 431
Concrete Building Blocks, A Church of Hollow—M 390
Concrete Building Blocks, Fire Test of 447
Concrete Building Blocks for Large Buildings—Q 276
Concrete Building Blocks, Manufacture and Use of Hollow—Q 275
Concrete Building Blocks, Patents on—Q 276
Concrete Building Constructors—Q.... 372
Concrete Chimney Designs—Q 372
Concrete Conduits, Makers of—Q..... 373
Concrete Construction and Machinery Number of Patents on—Q 433
Concrete Construction, the Architect and—E 16
Concrete Construction, Book on—Q.. 434
Concrete Construction, Cement—M 138

Concrete Culverts—Q 118
Concrete Culverts, How to Build—Q.. 116
Concrete Curb, Culverts and Arches, How to Construct—Q 275
Concrete Curbing and Sewer Caps—M 393
Concrete Dam—Q 277
Concrete Dam, A—I..... 296
Concrete Dams, Building of—Q... 372
Concrete Fireproof? Is—Q 186
Concrete Floors Under Construction, Failure of—I 296
Concrete Fluted Colonial Column, A—M..... 310
Concrete Lock-Joint Curb in St. Louis, Bedell's—M 312
Concrete Mixer—Q 183
Concrete Mixer, An Inexpensive—M.... 150
Concrete Pavements in Toronto, Canada—C. H. Rust, City Engineer..... 350
Concrete Plant at the Washington Filters, Conveying Belts in the—M.. 556
Concrete Sewers in Wilmington, Del., Reinforced 248
Concrete-Steel Bridges at Dayton, O. 83
Concrete-Steel Building Construction, Fire Test of—I 213
Concrete-Steel Construction, Patents on—Q 27
Concrete-Steel for Building, Construction—Q 28
Concrete-Steel Crossings, Cost of—Q... 115
Concrete, Strength of Cinder—Q..... 278
Concrete, Strength of—Q 278
Concrete Surfaces, How to Make Expansion Joints in?—Q..... 429
Concrete, Temperature Cracks in—I... 296
Concrete, Walls and Blocks of Cinder—Q 25
Concrete Walls, How to Build—Q..... 27
Concrete Walls, How to Construct Hollow Spaces in—Q 430
Concrete, White Portland Cement and—Q 186
Conduits, Bituminized Fiber for—I.... 130
Conduits, Makers of Concrete—Q..... 373
Conduits, The Use of Bituminized Fiber—H 228
Contracts Attacked, Eight-Hour Provision in Milwaukee—I..... 213
Correspondence Schools for Building Construction—Q 195
Conventions at St. Louis, A Week of—E 367
Conveyor, Triumph Steel Belt—M..... 145
Crouch Artificial Stone System—M.... 462
Culverts and Arches, How to Construct Concrete Curb—Q..... 275
Culverts, How to Build Concrete—Q 116, 118
Curb and Gutter, Parkhurst Combined—Q 275
Curb, Steel Protected—Q..... 275
Curb Templates, Machine for Pulling Cement—M 150
Curbing and Sewer Caps, Concrete—M 393

Damages and Benefits—L 31
Damages, Failure to Claim—L 31
Directory of Municipal Officers—Q.... 24
Directory of Stone Industry—Q..... 25
Directories of Trades and Professions—Q 25
Drain, Conversion of Creek into Covered—Q 191
Drainage Problem, A—Q 24

Eight-Hour Law Unconstitutional in Wisconsin—I 384
Electric Light, Cost of—Q 200
Electric Light Plant, Voucher Book for Combined Water and—I..... 208
Electric Lighting, Municipal Ownership of Plants for—Q 108
Electric Lighting Plant at Richmond, Ind., The Municipal—I 130
Electric Railways, Power and Power Transmission for—I 44
Electric Wiring, Oridinance Governing—Q 196
Electricity, Minimum Rates for Water, Gas and—Q 195
Electricity, Pumping Water by—Q 195
Engineering and Municipal Conventions at St. Louis—E 180
Engineering Building at the University of Michigan, The—I..... 207
Engineering Congress, The International—I 60, 383
Engineering Services, Charges for—Q. 373
Engineers, Visit of British—I..... 223
Estimate Must Appear in Improvement Resolution, Engineer's—L..... 31
Estimate Not Sufficient, Lump Sum—L..... 31

Feathers in River Enjoined, Deposit of 456
Filtration Plant, Operation of Water—Q 194
Fire Alarm, A Simple Automatic..... 456
Fire Clay and Blast Furnace Slag are Produced, Where Calcined Plaster—Q 279
Fire Test of Concrete—Steel Building Construction—I 213

Garbage Burning and Steam Production—Q 283
Garbage Contract Set Aside, Atlantic City's—L 33
Garbage Disposal Plants—Q..... 189
Gas and Electricity, Minimum Rates for Water—Q 195
Gas Lighting Contract Sustained, New York—I 212
Gas Manufacture, Books on—Q..... 439
Gas Plants and Franchises, Information About—Q..... 201
Granite for Sidewalks, Crushed—Q.277, 370
Granitoid Floor, Laying—Q..... 277
Grappler Cements, Hydraulic Lime and. E. C. Eckel, U. S. Geological Survey 168
Gravel Street, Specifications for—Q.. 440
Guaranty of Pavement by Brick Company, Stockholders Ask Injunction Against Contract for—I 127
Gutter, Parkhurst Combined Curb and —Q 275

Hagloch's Art Stone—I 297
Hagloch's Books on Artificial Stone Construction—I 388
Heating, Central Station. W. H. Schott 450
Heating Franchise, Form of Central —Q 267

Highways, Dustless—I 202
Hospitals, Insolation—Q 23
Hydraulic Limes and Grappler Cements. Edwin C. Eckel, Assoc. Am. Soc. C. E., U. S. Geological Survey, Washington, D. C..... 168

Improvement Districts Legal in Dallas—L 31
Improvement Idea, The—I 292
Improvements, Appropriations Made for Municipal—I 215
Interurban Electric and Steam Railroads—E 426

Jones, Mayor Samuel M—I 136

Labor, Prices for—Q 181
Lamp, An Artistic Park—M..... 464
Lamp, The Auto-Arc—M 144
League of American Municipalities—I 379
League of American Municipalities at St. Louis—I 306
League of American Municipalities, The Aims and Accomplished Work of the; Ex-President James M. Head, Nashville, Tenn..... 362
Letters for Cement Walk, Metal—Q.... 117
Licenses, Brewery—Q 272
Light to Its Citizens, Chicago Wants to Furnish—I 46
Lighting Companies in Montgomery, Ala., Conflict of—L 32
Lighting Plant, Bay City Mich., Enjoined from Completing—I 130
Lighting Plant, Results of Chicago's Municipal—I 287
Lighting, Street—A. S. Hatch 288
Lighting System of Northborough, Mass., The—I 47
Lime, Manufacturers of High Calcium —Q..... 25
Lime Mixtures, Steam for Hardening Cement and—Q 436
Limoid, Standards for Shipments of —M 312

Macadam, Destructive Effect of Automobile Speed on—I 203
Macadam Repairs, Cost of—Q 183
Macadam Road Roller, A New—M .. 228
Macadam Street, Construction of—Q .. 111
Meter Question, The Water—E 20
Meter Rates and Discounts for Large Quantities Upheld in Newark, Minimum—I 286
Meter, To Meter or Not to—J. de Bruyn Kops, C. E., Savannah, Ga... 1
Meters, Berwyn, Ill., Citizens Must Put in Officially Designated Water—L 32
Meters at Maynard, Mass., Effect of Water—I 209
Meters in Cleveland Water Works.... 455
Meters, The Mayor of East Orange Opposes Water—I 49
Meters, Their Use and Benefits—Park Woodward, General Manager Atlanta, Ga., water works—I 119
Municipal Convention in St. Louis, Engineering and—E 180
Municipal Engineering, Binding for—Q 374
Municipal Improvement Societies at St. Louis, Convention of—I..... 220
Municipal Improvements, The Influence of Commercial Organizations Upon—Charles Carroll Brown, Consulting Engineer, Indianapolis, Ind. 356
Municipal League of Indiana at South Bend 458
Municipal Officials, St. Louis in October—E 264
Municipal Ownership, Financial Results of—Q 273
Municipal Ownership in Ontario, Results of—I 47
Municipal Ownership in Santa Clara, Cal—I 294

National Municipal League, The Aims and Accomplished Work of the, Secretary Clinton Rogers Woodruff, Philadelphia, Pa 359
New Publications 59, 133, 219, 298
Municipal Reports 134, 217, 297

Officials of Dixon, Ill., Public Spirited —I 385
Oil on Asphalt Pavements, Effects of —Q 437
Oil on Railway Roadbeds 165
Oil on Streets—I 205
Ownership Question in Mason City, Ia., The Municipal—I 285

Passaic River Dam Below Paterson Creates Nuisance 456
Pavement, Convict Labor on a Standard 245
Pavement, Davenport, Ia., Must Pay for Camp McClellan—I 205
Pavement, Margin for End of Brick—Q 22
Pavements, Creosoted Wooden Block —Q 110
Pavements, Information About Creosoted Block—Q 23
Paving Contract is Invalid, St. Joseph, Mo., Street—I 202
Paving Materials, John W. Alvord, C. E., Chicago, Ill..... 96
Paving Ordinance Affirmed, Validity of Rock Island—I 128
Paving, Problems of Street 92
Paving Record, A New—I 53
Paving Street Railway Tracks—Q.... 185
Personal Notes.....62, 137, 223, 308, 389, 459
Pipe, Cost of Cast Iron—Q 112
Pipe, Riveted Steel—Q 282
Pipes, City Control of Private Service—Q 192
Pipes, Vitrified Clay vs. Cast Iron—Q 192
Plaster, Fire Clay and Blast Furnace Slag are Produced, Where Calcined —Q 279
Plastering, Books on—Q 189
Plaster Manufacture, Machinery for —Q 188
Plaster Manufacturers—Q 279
Playground in St. Louis, A Municipal—I 291
Policy, The Open—M 141
Pollution of the Passaic River and Its Prevention, The. Ernest Adam, City Engineer, Newark, N. J..... 327
Porcupine and Its Use, The—M 142
Post, the Plattenberger Artificial Stone—M 392
Providence, R. I., Public Works in.... 410

Quicksand in Mortar—Q 433

Radiator, Air Heating—Q 435
Rail, Hand—Q..... 118
Railroads, Interurban, Electric and Steam—E 426
Railways, Co-Operation of Interurban and Steam—E 264
Railways, Gradients and Curvatures on Electric—Q 282
Rattler for Testing Brick, Standard—Q 437
Reckoners, Ready—Q.... ....182, 282
Refuse Destruction at Shoreditch, London.. C. Newton Russell, Borough Electrical Engineer, Shoreditch, London, England—I.... 39
Refuse Destruction Plant, The Steam Turbine in a. Dr. Alfred Gradenwitz, Berlin, Germany..... 409
Refuse Destructors. M. N. Baker..... 447
Refuse, Purification of Condensed Milk Factory—Q..... 190
Reservoir, Bursting of a Pennsylvania—I..... 124
Reservoir, Vandalism at St. Mary's, O.—I..... 210
Road Building in Maryland, State Aid to—E..... 78
Road Machines at the St. Louis Exposition, Scholl's—M 310
Road Makers, Wide Tires as Good—E. 368
Road Material Laboratory, National —I..... 57
Roads, Convict Labor on—E..... 262
Road, Oil on—Q..... 22
Rope Reel, Capacity of—Q..... 283

Sand-Lime Brick, Extension of Use of—M..... 312
Sand-Lime Brick Factory at Wilmington, Del—M..... 138
Sand-Lime Brick Industry, The—I..... 387
Sand-Lime Brick Machinery, Makers of—Q..... 118
Sand-Lime Brick Plants, Smidth Tube Mills for—M..... 390
Septic Tank in Ohio, The Use of the, T. R. Winthrop Pratt, Engineer Ohio State Board of Health—I.. 34
Septic Tank, Sewage Disposal and the —E 18
Septic Tanks, Books on Sewage Purification by—Q 23
Septic Tanks, Plainfield, N. J., Settles Infringement Suits on—I..... 132
Sewage Disposal, J. N. McClintock, Boston, Mass 335
Sewage Disposal and the Septic Tank —E 18
Sewage Disposal at Plainfield, N. J. Andrew J. Gavett, Plainfield, N. J. —I 37
Sewage Disposal Case, Decision in Pawtucket—I 385
Sewage Disposal for Small Cities and Towns—T. Chalkley Hatton, Consulting Engineer, Wilmington, Del. 331
Sewage Disposal Plant, Plans for—Q. 279
Sewage Disposal Plant, Technicalities Reject Bid on Columbus—I 291
Sewage Pump, An Electrical—I 211
Sewage Purification by Septic Tanks, Books on—Q 23
Sewage Disposal, The Mitchell System of—M..... 463
Sewerage Commission Act Is Constitutional, Passaic Valley—I 211
Sewerage System of Little Rock, The —Walter F. Reichardt 337
Sewer Caps, Concrete Curbing and—M 393
Sewer Computer, Use of Colby—Q..... 190
Sewer Maintenance, Cost of—Q 183
Sewer Ordinance, Local Labor Provision in Allegheny—I 212
Sewer Ordinance Valid, North Peoria, Ill—I..... 211
Sewer Pipe, Cement—Q..... 113
Sewer Pipe Joints in Wet Trenches, The Use of Sulphur for—E. S. Rankin, Engineer Sewer Department,, Newark, N. J..... 357
Sewer Pipe Manufacturers—Q..... 280
Sewer Pipe, Strength of—Q..... 280
Sewer Pipes in Same Trench, Water and—Q..... 191
Sewer, Remonstrance Against—Q.. .. 189
Sewer Resisted, Charge for Use of—I. 211
Sewer Trap, The "Perfect"—M..... 393
Sewer, What is the Invert of a—Q.... 24
Sewer by Contract, Chicago Must Construct—I.... 132
Sewers, Cost of Constructing—Q..... 189
Sewers, Methods of Cleaning—Q..... 440
Sewers of Little Rock, Ark.—E. A. Kingsley, City Engineer.... 424
Sewer, Tools Used in Cleaning—Ben E. Briggs, City Engineer, Erie, Pa.. 418
Sewers, Tree Roots in—Q..... 113
Sidewalk Lights—Q 188
Sidewalks, Crushed Granite for—Q..277, 370
Signs, Manufacturers of Street—Q.... 437
Signs, Ordinance Governing Electric—Q 433
Slag Are Produced, Where Calcined Plaster, Fire Clay and Blast Furnace—Q 279
Sprinkling, Cost of Street Cleaning and—Q 183
Steam Turbine in a Refuse Destruction Plant, The. Dr. Alfred Gradenwitz, Berlin, Germany..... 409
Steel Concrete Building, A. George B. Low, Halifax, N. S..... 166
Steel Concrete Construction, Books on—Q 27
Stone, Crushing Strength of Hollow Concrete Blocks, Common Brick, Vitrified Brick and—Q 371
Stone Manufacture, Books on Artificial—Q 435
Street Cleaning and Sprinkling, Cost of—Q 439
Street Crossings, Cost of Concrete—Q.. 115
Street Railway Tracks, Paving—Q..... 185
Street Sweepers, Manufacturers of Hand—Q 374
Surveys, Monuments for, J. C. Herring, City Engineer, Jefferson City, Mo 258
Sweeper, A New Street—M 393
Sweepers, Manufacturers of Hand Street—Q 374

Technical Meetings..162, 137, 222, 306, 388. 459
Technology Club of Syracuse, N. Y. —I 221
Testing Materials, Society for—I 61
Timber, Methods of Preservation of —Q 439

Timber Preserving Plants in the South—Q 182
Tires as Good Road Makers, Wide—E 368
Tracing Cloth, Cleaning—Q 182, 282
Tracks for Laporte, Ind., Elevated—I 291
Trade Notes.....69, 151, 231, 314, 394, 465
Trade Publications...69, 150, 231, 314, 393, 464
Trade Report, United States—Q 280
Transmission Machinery, Dodge—M.. 224
Tread, The Universal Safety—M..... 463
Typhoid Fever and Water Supplies—E 427

Underground Structures, Losses in; Prof. A. P. Folwell, Lafayette College, Easton, Pa 339
Underground Waters, A California Decision on 454

Wagon, the Studebaker Banner Dump—M 146
Water and Sewer Pipes in Same Trench—Q 191
Water Board in Asphalt Reservoir Lining Case, Injunction on—I..... 286
Water by Electricity, Pumping—Q 195
Water Collecting Galleries Reduce Flow of California Stream—I 287
Water Company Attacked, Charleston—I 287
Water Company Dismissed, Suit Against N. Y. Interurban—I 210
Water Controversy Is Proposed, Compromise of Knoxville—I 286
Water Filtration Plant, Operation of—Q 194
Water, Gas and Electricity, Minimum Rates for—Q 195
Water in Small Plants, Cost of Pumping—I 121
Water or Light Company, Indiana Citizens Cannot Evade Debt Limit Through—L 33
Water Pipes, Joints for Lead—Q 441
Water Plant, Management of a Municipal—Q 113
Water Pollution Not Enjoined, Appleton, Wis 456
Water Rates are Reasonable, Rogers Park, Chicago—I 385
Water Rates, Chicago Enjoined from Lowering—I 124
Water Rates Inadequate, Knoxville, Tenn—I 123
Water Rates, San Francisco and Oakland Enjoined from Lowering—I 124
Water Supply of Waterloo, Iowa, The—I..... 120
Water Supply of Worcester, Mass.—F. A. McClure, Civil Engineer..... 7
Water Supplies, Information on Underground—Q..... 113
Water Supplies, Typhoid Fever and—E..... 427
Water Taps, Charges for Making—Q.. 193
Water, Use of Alum in Purifying—Q.. 112
Water Works and Electric Light Plant, Voucher Book for Combined—I..... 208
Water Works Association, Convention of American—I..... 60
Water Works Bookkeeping, Forms of—Q..... 283
Water Works Case, Recommendations in Columbus, Ga.—I..... 384
Water Works Contract Case, Another Decision in the Cincinnati—I..... 209
Water Works, Knoxville, Tenn., Can Build—I..... 385
Water Works of Madison, Wis., Some Features of the..... 12
Water Works, Municipal Ownership of—Q..... 112
Water Works, Management of Municipal—E..... 106
Water Works Property, New York Must Pay Taxes on Its Outside—I.... 210
Water Works, Sioux Falls Must Conform to Law in Building—I..... 123
Water Works Temporarily Enjoined, Knoxville Municipal—I..... 208
Well Drillers, Names of Deep—Q..... 112
Winona, Minn., Recovers Extra Cost From Contractor Who Abandoned Work—I..... 132
Wires, Ordinance Providing for Underground—Q 196
Wood Paving Blocks, Tests for; F. A. Kummer, C. E., New York City.... 351

IMPROVEMENT AND CONTRACTING NEWS.

Paving.....72, 154, 234, 318, 399, 469
Sewers.....75, 158, 238, 321, 403, 471
Water Works.....79, 160, 240, 324, 405, 473
Bridges.....81, 161, 241, 325, 406, 474
Street Lighting.....82, 162, 242, 326, 407, 475
Garbage Disposal, Street Cleaning and Sprinkling.....82, 163, 243, 326, 409, 475
Public Parks.....163, 243, 326, 408, 475
Fire Apparatus.....82, 163, 326, 475
Too Late for Classification..163, 243, 408, 476